Roland

STUDIO-CAPTURE

USB 2.0 Audio Interface

16 IN/**10** OUT with **12** Premium Mic Preamps (VS PREAMP)
24-bit/**192** kHz Operation, Extreme Low-Latency VS STREAMING Driver
Automatic Input Level Adjustment with AUTO-SENS

USB 2.0 Audio Interface
STUDIO-CAPTURE

12 Premium Mic Preamps, 1 Serious Audio Interface

Featuring premium-grade specs, exceptional audio stability
with VS STREAMING technology,
and simple operation for an intuitive workflow,
STUDIO-CAPTURE delivers uncompromising audio performance
both in the studio and on the road.

STUDIO-CAPTURE

USB 2.0 Audio Interface

for Windows / Mac · WDM Windows® · Core Audio Mac OS X · ASIO

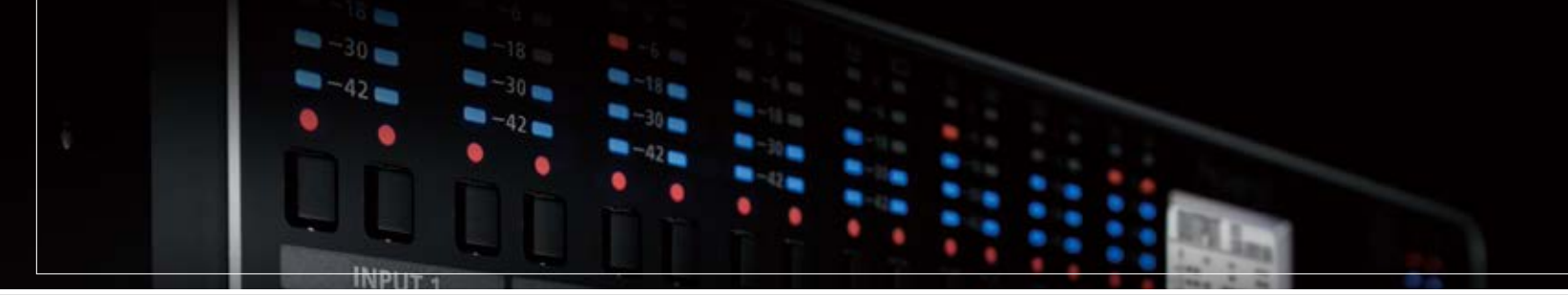
Simple and intuitive operation.

Featuring intuitive controls and a bright LCD, STUDIO-CAPTURE's front panel is designed for maximum ease of use in your recording projects, with simple, hands-on operability that's only available with hardware. All input channels have dedicated selection buttons that let you directly access parameters for each channel, plus easy-to-view, five-segment LED level meters for checking input levels on all channels at a glance.

Newly designed graphical Control Panel software.

The included STUDIO-CAPTURE Control Panel software has greatly evolved over previous versions in the CAPTURE family, both in performance and ease of use. It provides dedicated windows for controlling the mic preamps, monitor mixers, patch bay, and other functions, and allows you to fine-tune a variety of parameters within a clean graphical interface on your computer. There's also an editor for the compressors, which displays compression curves and lets you easily control the numerous compressor parameters for every channel.

* The STUDIO-CAPTURE Control Panel supports 10-point multi-touch gestures in Windows 8. (A touchscreen display compatible with Windows 8 is required for multi-touch gestures.)



12-channel mic preamp section equipped with VS PREAMPS, respected worldwide for their exceptional sound.

STUDIO-CAPTURE features 16 inputs and 10 outputs* in a very compact enclosure, allowing you to execute large multitrack recording sessions anywhere. Inputs 1 – 12 are equipped with Roland's VS PREAMPs, which are widely acclaimed for their transparent, pristine sound. Developed from the same Class A preamp circuitry found in our V-Mixer series of professional mixing consoles, these premium-quality mic preamps deliver an accurate, neutral sound across the entire frequency spectrum, with no bias toward any particular frequency band. The four balanced analog inputs that are not equipped with VS PREAMPs (Inputs 13 – 16) have trim adjustments for -20, -10, and +4 dB levels, allowing you to connect a wide range of outboard equipment, from synthesizers to live-level studio devices. * 8-in/4-out operation at 192 kHz sample rate.

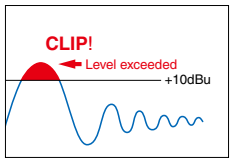
VS PREAMP

What is Class A circuitry?

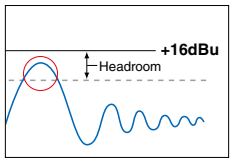
Amplifier circuitries are classified A, AB, B, C, or D depending on how the amplifying elements (transistors and/or vacuum tubes) function. Amplifiers that operate at 100% at all times using ample voltage and current flow are defined as Class A amps, and are characterized by pure sound with super-low distortion.

Wide dynamic range with ultra-low noise.

The 12 VS PREAMP channels in STUDIO-CAPTURE deliver ample headroom up to +16 dBu. Increasing the headroom in mic preamps typically results in problems with the signal-to-noise ratio; however, with our latest power supply circuitry, we're able to minimize noise levels while providing a wider dynamic range. Each preamp's input equivalent noise level is an astonishing -125 dBu, a specification that ranks among the best mic preamps on the market. With huge headroom and top-level sound quality, you can easily record sources with a wide dynamic range, such as acoustic drums and percussion instruments.



Typical designs

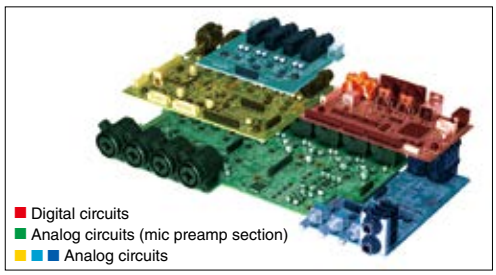


STUDIO-CAPTURE

Meticulously designed circuitry for premium sound quality with no compromises.

STUDIO-CAPTURE has been carefully crafted from the ground up with premium sound quality as the top priority. First, the analog circuits were designed to be as simple as possible, eliminating all non-essential elements. For example, the design minimizes undesirable variations in the signal by shortening the internal wiring distance between different components and circuit boards. In addition, all parameters are digitally controlled to eliminate various negative factors that can affect the sound.

On top of this, we've completely segregated the analog and digital circuitry at the circuit-board level and provided different power supplies for each board, which minimizes the noise and crosstalk that can result from interference between circuits. This achieves a professional-level signal-to-noise ratio of 105 dB on the analog input channels, providing audio that is pure and clear with no unwanted noise.



High-quality digital compressors directly inherited from the V-Mixer line.

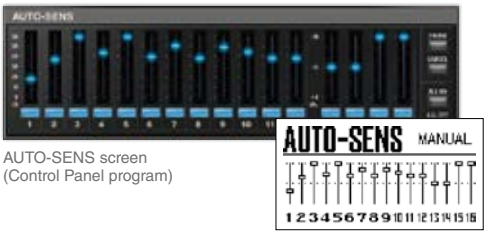
Each of the first 12 analog inputs (Inputs 1 - 12) are equipped with high-performance digital compressors featuring top-quality compression algorithms directly transplanted from Roland's V-Mixer range of professional mixing consoles. The compressors give you the ability to perform a broad range of dynamics processes right at the input, from simply limiting excessive levels to applying aggressive compression for effect. On/off, threshold adjustment, and other operations can be performed from the front-panel display, and you can tweak these and other parameters using the STUDIO-CAPTURE Control Panel software on your computer. STUDIO-CAPTURE comes with numerous presets that have been optimized for specific applications; you can also store up to 16 of your own presets in the unit and unlimited presets on your computer.

Compressor controls

Unique AUTO-SENS feature for automatically setting optimal input levels on all 16 input channels.

AUTO-SENS dramatically improves efficiency in your recording sessions, automatically setting the optimum recording levels by analyzing input sources before your record. You can set the maximum upper limit of the AUTO-SENS recording level setting between -12 – 0 dBFS in 1 dB steps. AUTO-SENS is particularly useful when capturing sources that have a wide dynamic range (such as acoustic drums and vocals), and also helps reduce your workload when recording with multiple mics. You can operate AUTO-SENS via STUDIO-CAPTURE's front panel, or remotely on your computer with the STUDIO-CAPTURE Control Panel software.

AUTO-SENS

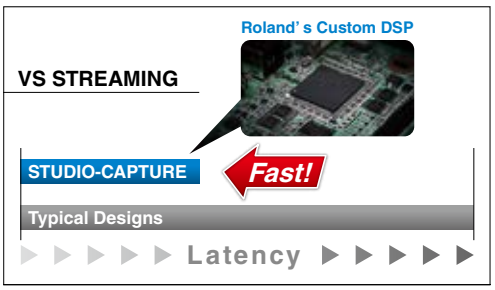


AUTO-SENS screen
(Control Panel program)

AUTO-SENS screen
(STUDIO-CAPTURE panel display)

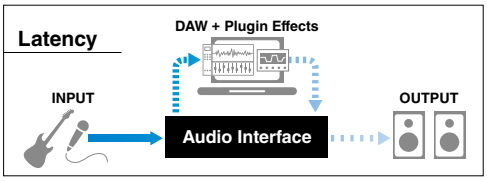
State-of-the-art VS STREAMING driver ensures super-low latency and superior audio stability.

VS STREAMING–Roland's proprietary audio streaming technology–has taken another evolutionary step forward in STUDIO-CAPTURE. With a newly developed custom DSP chip and seamless integration of hardware and software, VS STREAMING achieves extremely clean, reliable audio performance with superior stability and lower latency that ever before–even with buffer sizes as small as 32 samples (less than 1 ms at 44.1/48 kHz) when using the ASIO driver. This allows you to work on recording sessions with no concern for latency issues, even if you decide to monitor performances through your DAW.



VS STREAMING

VS STREAMING is Roland's innovative audio-streaming technology that achieves super-low latency and high performance by syncing the entire system–both driver and hardware–to a proprietary custom DSP chip and a dedicated high-precision clock.

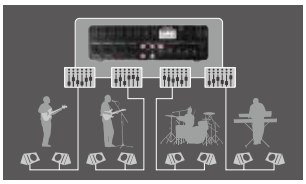


What is latency?

The term "latency" refers to the time delay that occurs between the moment a sound goes into the computer audio system and the moment it comes out. When this time delay is too long, it becomes a major problem for musicians, making it difficult or impossible for them to monitor their sound through DAW software.

Monitor Mixer function allows you to create four independent monitor mixes.

Equipped with Roland's latest custom DSP chip, STUDIO-CAPTURE lets you create up to four instances of two types of digital mixers (one type for input, the other for output) without burdening your PC. You can mix the unit's 16 input channels in different ways to create independent monitor mixes for multiple performers, and route audio from your DAW to the 10 output channels any way you like by assigning signals to any jack via the built-in patch bay. STUDIO-CAPTURE also comes with a high-quality digital reverb with five different algorithms, allowing you to apply DSP-powered ambience to the performers' monitor mixes as needed.



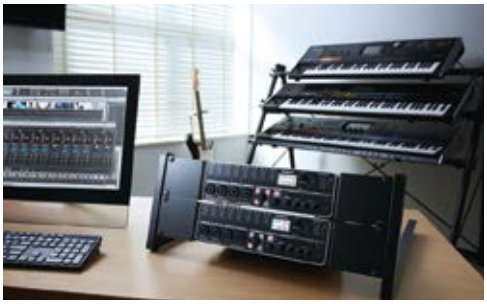
4 x Direct Monitor

Patch Bay screen

Multi-Monitor Mixer
On/Off screen

STUDIO-CAPTURE's professional specs cover a wide range of recording applications.

- Supports sample rates up to 192 kHz for master-quality recording on multiple channels
- Use two units* to expand your studio with up to 32 inputs and 18 outputs; two STUDIO-CAPTURE units synchronize perfectly simply by connecting them together with one coaxial digital cable
  * When using two STUDIO-CAPTURE units together, sample rates of 96 kHz or higher cannot be used.
- Two headphone jacks with independent front-panel level knobs
- Typical headphone output level increased by +6 dBu for a total level of +16 dBu, ensuring rock-solid monitoring even when recording in high-decibel situations
- The XLR monitor output jacks feature a MONITOR OUT LEVEL switch, which lets you bypass the front-panel volume control circuitry if desired
- 2U rackmount ears included



Specifications

Number of Audio Record/Playback Channels	[Sampling Rate = 96 kHz, 48 kHz, 44.1 kHz] Recording: 16 channels, Playback: 10 channels, [Sampling Rate = 192 kHz] Recording: 8 channels, Playback: 4 channels
Signal Processing	PC interface: 24-bit, AD/DA Conversion: 24-bit
Sampling Rate	AD/DA Conversion: 192 kHz, 96 kHz, 48 kHz, 44.1 kHz, DIGITAL (IN/OUT): 96 kHz, 48 kHz, 44.1 kHz
Nominal Input Level (variable)	INPUT jacks 1 – 12 (XLR type): -60 to -2 dBu, INPUT jacks 1 – 12 (1/4-inch TRS phone type): -54 to +4 dBu, INPUT jacks 13 – 16 (1/4-inch TRS phone type): -20, -10, +4 dBu
Nominal Output Level	OUTPUT jacks 1 – 8: +4 dBu (balanced)
Headroom	18 dB
Input Impedance	INPUT jacks 1 – 12 (XLR type): 8.2 k ohms (balanced), INPUT jacks 1 – 12 (1/4-inch TRS phone type): 18 k ohms (balanced), INPUT jacks 13 – 16 (1/4-inch TRS phone type): 38 k ohms (balanced)
Output Impedance	OUTPUT jacks 1 – 2 (XLR type): 600 ohms (balanced), OUTPUT jacks 1 – 8 (1/4-inch TRS phone type): 2 k ohms (balanced), PHONES jacks: 47 ohms
Frequency Response	192 kHz: 20 Hz – 60 kHz (+0/-2 dB), 20 Hz – 90 kHz (+0/-8 dB), 96 kHz: 20 Hz – 40 kHz (+0/-2 dB), 48 kHz: 20 Hz – 22 kHz (+0/-2 dB), 44.1 kHz: 20 Hz – 20 kHz (+0/-2 dB)
Residual Noise Level	INPUT jacks 1 – 2 → OUTPUT jacks 1– 2: -90 dBu typ. (SENS = min., Input terminated with 600 ohms, IHF-A) * Input channel fader = Unity
Dynamic Range	AD block: INPUT 1 – 2: 105 dB typ. (SENS = min.), DA block: OUTPUT 1 – 2: 114 dB typ.
Display	Graphic LCD 128 x 64 dots
Connectors	INPUT jacks 1 – 12*1: XLR type (balanced, phantom power*2: DC +48 V [unloaded maximum], 10 mA [maximum load]), INPUT jacks 1 – 16: 1/4-inch TRS phone type (balanced), PHONES jacks: Stereo 1/4-inch phone type, OUTPUT jacks 1 – 8: 1/4-inch TRS phone type (balanced), COAXIAL IN jack: RCA phono type (conforms to IEC60958), COAXIAL OUT jack: RCA phono type (conforms to IEC60958), MIDI (IN, OUT) connectors, USB port: USB Type B, DC IN jack *1 INPUT 1 – 2 jacks support high impedance *2 Provided on all XLR-type input jacks. Current value is per channel. Total must not exceed 50 mA.
Interface	Hi-Speed USB
Power Supply	AC adaptor
Current Draw	1.6 A
Dimensions	284 (W) x 162 (D) x 89 (H) mm; 11-3/16 (W) x 6-7/16 (D) x 3-9/16 (H) inches
Weight (excluding AC adaptor and rack mount angles)	1.9 kg; 4 lbs 4 oz
Accessories	Owner's Manual, Block Diagram leaflet, AC adaptor, STUDIO-CAPTURE Driver CD-ROM, Rack mount angle x 2, USB cable, License agreement

* 0 dBu = 0.775 Vrms

System Requirements

Windows	
OS	Microsoft® Windows® 8 / Windows® 7 SP1 or later / Windows Vista® SP2 or later / Windows® XP Home / Windows® XP Professional SP3 or later
Computer	Windows compatible PC equipped with a USB 2.0 port
CPU/Clock	Intel® Core™2 Processor 2 GHz or higher
Memory (RAM)	2 GB or more
Screen Resolution	1280 x 768 or higher

* This product does not support Windows XP Media Center Edition or XP Professional x64.

Mac	
OS	Mac OS X v10.6.8 or later
Computer	Apple Mac series with on-board USB 2.0 port
CPU/Clock	Intel® Core™2 Processor
Memory (RAM)	2 GB or more
Screen Resolution	1280 x 768 or higher

* Mac computers running Microsoft Windows are not supported.

* To use at 192 kHz, an Intel Core 2 Processor/2 GHz or higher and a built-in 7200 rpm or faster hard drive or built-in SSD are required.
* To use two STUDIO-CAPTUREs, an Intel Core 2 Processor/2.4 GHz or higher and one separate SSD or hard drive (7200 rpm or faster) dedicated for audio recording is required. (A USB hard drive cannot be used.)
* When using two STUDIO-CAPTURE units together, sample rates of 96 kHz or higher cannot be used.
* If this product does not work correctly when connected to a USB 3.0 port, you will need to connect it to a USB 2.0 port.
* This product cannot be used with a USB 3.0 controller that does not support USB 2.0 devices.
* Even if connected to a USB 3.0 port, the performance of the product will not change.
* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

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